

Lesson 4.4, continued

27. $-1, \frac{2}{3}$ 28. 1, 2 29. -3, 1 30. -4, 2

31. $\frac{3}{2}$ 32. $-\frac{1}{3}, \frac{1}{3}$ 33. $-\frac{5}{2}, -\frac{3}{2}$

34. 3 35. 2 36. B 37. 1.5 ft

Practice Level B

1. $(3x - 2)(x + 4)$ 2. $(2x - 1)(x + 3)$

3. $(2x + 1)(2x + 1)$ 4. cannot factor

5. $(4x - 3)(x + 2)$ 6. $(2x + 5)(x + 3)$

7. $(3x + 2)(3x + 2)$ 8. $3(2x - 3)(2x - 1)$

9. $2(3x - 1)(3x + 1)$ 10. $(4x + 3)(3x + 2)$

11. $(5x - 4)(3x + 4)$ 12. cannot factor

13. $3(4x - 1)(x - 3)$ 14. $(6x - 7)(3x + 2)$

15. $2(5x - 6)(2x - 3)$ 16. $7(3x + 1)(2x + 1)$

17. $(-12x + 11)(x + 1)$ 18. $4(5x + 3)(4x + 1)$

19. $-2, \frac{1}{2}$ 20. $-\frac{3}{2}, 3$ 21. $\frac{1}{2}, \frac{3}{2}$ 22. $-\frac{2}{3}, \frac{2}{3}$

23. $\frac{1}{4}, \frac{1}{2}$ 24. $-\frac{4}{3}$ 25. $-\frac{5}{3}, -\frac{2}{3}$ 26. $-\frac{1}{2}, \frac{3}{2}$

27. $0, \frac{3}{7}$ 28. $\frac{3}{8}, \frac{3}{4}$ 29. $-\frac{2}{3}, 0$ 30. $-\frac{3}{2}, \frac{5}{6}$

31. 2, 3 32. $-\frac{6}{5}, \frac{4}{5}$ 33. $-\frac{8}{11}, 1$ 34. none

35. 2 36. $\frac{3}{2}$ 37. 0.375 ft

Practice Level C

1. $(4x - 3)(x - 3)$ 2. $(3x + 4)(2x - 7)$

3. $(5x + 2)(2x + 5)$ 4. $(3x + 4)(3x + 4)$

5. $-3(2x - 3)(2x + 3)$ 6. $4(3x + 2)(x - 4)$

7. $-3(5x + 4)(x - 1)$ 8. $x(3x - 1)(2x - 1)$

9. cannot factor 10. $x^2(2x + 3)(2x + 3)$

11. $3x^2(4x - 3)(2x + 3)$ 12. $4x(6x - 5)(3x - 7)$

13. $(x^2 + 9)(x - 3)(x + 3)$

14. $(2x^2 + 3)(x^2 + 1)$

15. $3(2x^2 - 1)(x - 1)(x + 1)$

16. $\frac{1}{3}, 3$ 17. $1, \frac{5}{2}$ 18. $-\frac{3}{4}, \frac{3}{4}$ 19. $-1, \frac{1}{6}$

20. $-\frac{4}{3}, \frac{3}{2}$ 21. $-\frac{3}{2}, \frac{7}{9}$ 22. $-\frac{4}{3}, \frac{7}{4}$ 23. $-\frac{3}{4}, \frac{5}{7}$

24. $-\frac{2}{5}, 4$ 25. 1, 2 26. $-\frac{2}{3}, 2$ 27. $\frac{2}{3}, \frac{7}{5}$ 28. $\frac{3}{2}$

29. 10 30. $99x^2 + 2900x - 38,900 = 0$; 100 ft

Study Guide

1. $2(x - 6)(x - 1)$ 2. $3(x + 1)(x + 7)$

3. $6(x - 3)(x - 4)$ 4. $4(x - 2)(x + 3)$

5. $5(x + 1)(x - 5)$ 6. $3(x - 6)(x + 2)$

7. $x = \pm\frac{3}{5}$ 8. $x = 2$ 9. $x = -1, x = 4$

10. The length is 6 in. 11. The shop should charge \$60/bike to maximize weekly revenue of \$3240.

Interdisciplinary Application

1. about 210 yd 2. about 60 yd

3. about 287 yd 4. about 361 yd

Challenge Practice

1. Sample answer: $c = -3, (2x - 1)(x + 3)$; $c = -12, (2x - 3)(x + 4)$

2. Sample answer: $c = -8, (3x + 2)(x - 4)$; $c = -25, (3x + 5)(x - 5)$

3. $(-2, -3), (\frac{4}{3}, \frac{11}{3})$

4. $(-\frac{3}{2}, -4), (3, 23)$

5. $(2n - 2)(2n)(2n + 2)$; An even integer is one that is a multiple of 2. Because n is an integer, $2n$ is an even integer. You can add and subtract 2 from $2n$ to obtain a set of three consecutive even integers. 6. 5 7. 24 club members

Lesson 4.5

Teaching Guide

1. 4 seconds 2. $t^2 = 16$; 4

3. No, $0 = -16t^2 + 324$ is not a perfect square trinomial. 4. $t^2 = 20.25$; 4.5 seconds

5. Yes, solve for t^2 and use trial and error to find the value of t .

Practice Level A

1. $3\sqrt{2}$ 2. $4\sqrt{3}$ 3. $2\sqrt{5}$ 4. $7\sqrt{2}$ 5. $27\sqrt{3}$

6. $2\sqrt{21}$ 7. $\frac{5}{4}$ 8. $\frac{7}{3}$ 9. 2 10. $3\sqrt{3}$ 11. $\sqrt{15}$

12. $\frac{2\sqrt{3}}{5}$ 13. $\frac{3 - \sqrt{3}}{6}$ 14. $\frac{10 + 2\sqrt{6}}{19}$ 15. $\frac{\sqrt{5}}{5}$

16. ± 4 17. ± 12 18. ± 11 19. ± 2 20. ± 8

21. $\pm 2\sqrt{2}$ 22. ± 4 23. ± 5 24. ± 6 25. ± 1

26. $\pm\sqrt{7}$ 27. ± 7 28. ± 2 29. $\pm\sqrt{3}$

30. $\pm 3\sqrt{2}$ 31. 2.5 sec 32. 3.5 sec

33. 5.48 sec 34. 6.12 sec 35. 6.85 sec

36. 8.66 sec 37. C 38. 1980